

Publishing Metadata to the Montana GIS Portal

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Publishing Metadata to the Montana GIS Portal

1. What is the GIS Portal?
2. Preparing Metadata for the Portal
 - a. Preparing Metadata
 - b. Special Portal Requirements
 - c. Linking to your data
3. Publishing Metadata to the Portal
 - a. List of methods
 - b. Maintaining your collection

Montana GIS Portal Home Page



This is the home page of the GIS Portal.

Most of the functions of the Portal are available without logging in, but you will have to set up a user account if you want to publish data.

Basic Search Page



After I logged in, I have a bunch of new links on the left for managing my account. During previous logins, I saved maps I made and a search I did, and these are now available again.

But first I'm just going to search for infrared imagery by typing the word infrared in the Search box.

Search Results

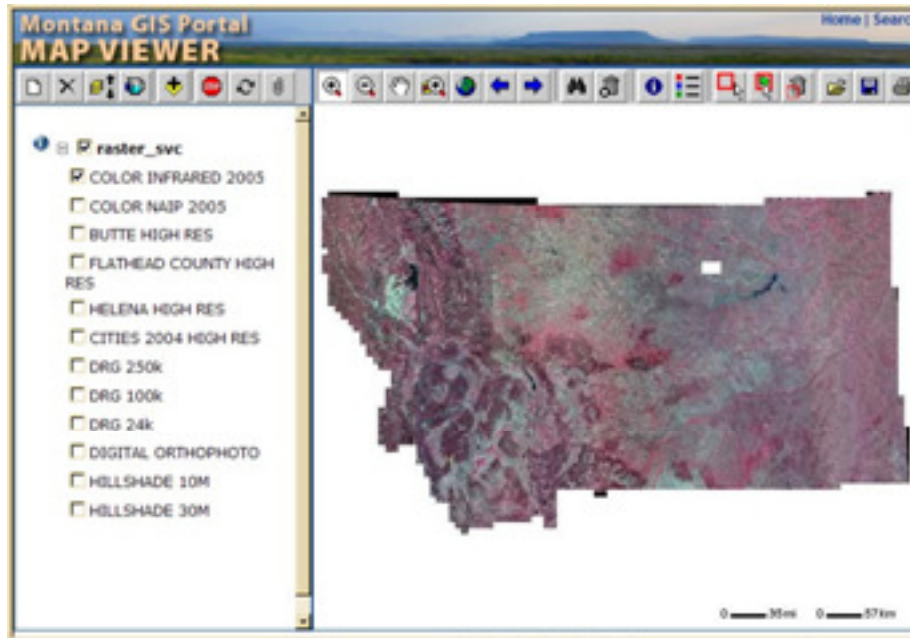
The screenshot shows the Metadata Portal search results interface. On the left is a navigation menu with sections: Metadata Portal (Home, Launch Map Viewer, Advanced Search), Montana GIS (Montana GIS Coordination, Montana GIS Clearinghouse), Portal User (Log Out (jspeumiller)), My Functions (Manage my Profile, Change Password, Manage my Channels, Upload Metadata, Manage my Repositories, Manage my Metadata, Manage my Searches, Manage my Maps), and Publishing Help (Publisher's Guide, Portal Metadata Standard, RDOC Metadata Standard). The main content area is titled 'Search Results' and shows 'Records Found: 6'. A search filter box displays: Search for: infrared, What: Any Publisher, Where: North: 90.0 South: -90.0 East: 180.0 West: -180.0, Category: All Categories, Resource Type: Any Type/Format, Time Frame: Any Time. Below this, the 'Metadata Results' section explains that the portal can only print one 'Download Data' or 'Go To Website' button per result. Two results are listed: 1. Content Title: National Wetlands Inventory for Montana, Publisher: NRIS, Coverage Area: Montana, with buttons for 'View Metadata' and 'Download Data'. 2. Content Title: Montana Color-Infrared Digital Orthophotography, 2005/2006, Publisher: Montana Department of Administration, Information Technology Services Division, GIS Bureau, Coverage Area: MT, with buttons for 'View Map', 'View Globe', 'Add To ArcMap', 'View Metadata', and 'Go To Website'. Small map thumbnails are shown next to each result.

The portal found six results in its catalog that had the word infrared in the metadata somewhere. The first result has a content type of "Downloadable data". The portal found a hyperlink in the metadata to what it believes is a file containing the data, so it made a button that leads to the data file.

The portal found instructions in the second metadata file for an ArcIMS service, so it created buttons to pop up the data in the portal's map viewer or to automatically add the service to ArcGIS Explorer or ArcMap, if you have those.

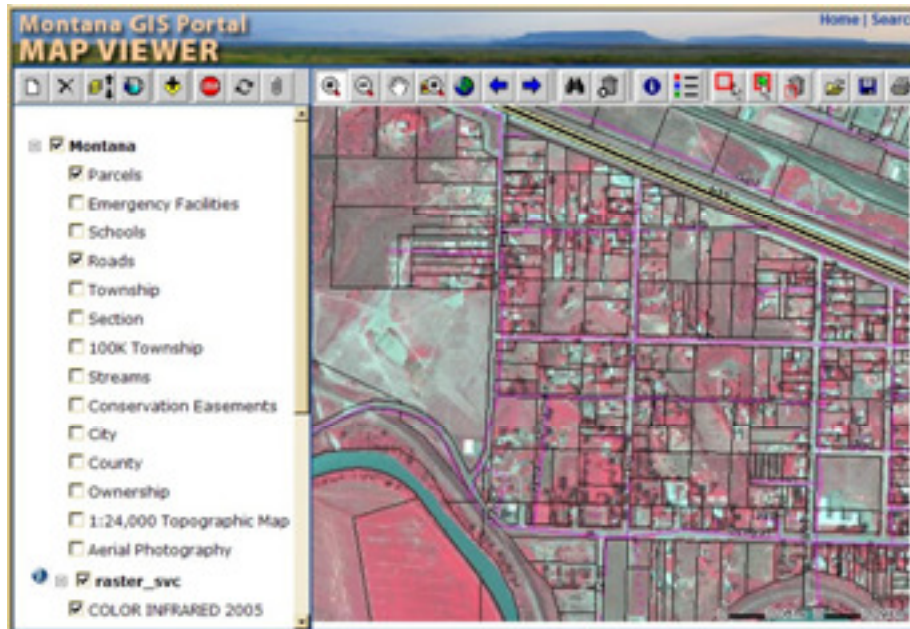
This version of the Portal is quite poor at ranking results. The next release of the Portal will rank the second result higher because it has Infrared in the title, while the National Wetlands Inventory just mentions infrared images as one of the sources.

Portal Map Browser



When you click on the View Map button from the second search result, the map browser pops up and loads the service that contains the images.

Portal Map Browser



The browser has an add data button that lets you go find other services and add them. The slide on the right shows data from the Montana Base Map Service Center on top of the color IR image we found

GeoSpatial One-Stop



Your metadata will also be visible on the GeoSpatial One-Stop (<http://geodata.gov>) after you have posted it on the Montana GIS Portal. The GeoSpatial One-Stop automatically harvests all the data from the Montana portal once a week. The State Library can ask it to harvest the Montana portal at any time if you load data want someone to be able to see it at the Geodata.gov right away.

Advanced Search

The screenshot shows the 'Advanced Search' page of a 'Metadata Portal'. On the left is a navigation menu with sections: 'Metadata Portal' (Home, Launch Map Viewer, Advanced Search), 'Montana GIS' (Montana GIS Coordination, Montana GIS Clearinghouse), 'Portal User' (Log Out), and 'My Functions' (Manage my Profile, Change Password, Manage my Channels, Upload Metadata, Manage my Repositories, Manage my Metadata, Manage my Searches, Manage my Maps). Below this is 'Publishing Help' (Publisher's Guide, Portal Metadata Standard, FDOC Metadata Standard). The main content area is titled 'Advanced Search' and includes a 'Save' button. It features a search bar with 'school district' and a 'Search' button. Radio buttons allow for 'Exact text search' (selected), 'Any word', or 'All words'. The 'Where' section has radio buttons for 'Anywhere' and 'Use geographic extent' (selected), with a 'Find A Place' button. A checkbox for 'Data must fall completely inside area' is present. A map viewer shows a map of Montana with a red line and labels for 'Yellowstone', 'Cotton', and 'Big Horn'. Buttons for 'Launch Map Viewer to Draw Box' and 'Get Box already drawn on Viewer' are shown. The 'What' section has dropdowns for 'Data Category' (Any) and 'Type/Format' (Any). The 'When' section has radio buttons for 'Anytime' (selected), 'Time Period' (From/To), and 'Date Posted' (After). The 'Who' section has a dropdown for 'Publishing Organization' (Any). At the bottom, a 'Sort results by' dropdown is set to 'Title', followed by a 'Search' button.

The advanced search has more options on what kind of text matching will happen, has a little map viewer you may use to limit your search area, and lets you select data themes, data types, publisher, time period of the data, and time when the data was posted.

Search Results

Metadata Portal

- Home
- Launch Map Viewer
- Advanced Search

Montana GIS

- Montana GIS Coordination
- Montana GIS Clearinghouse

Portal User

- Log Out (gileumiller)

My Functions

- Manage my Profile
- Change Password
- Manage my Channels
- Upload Metadata
- Manage my Repositories
- Manage my Metadata
- Manage my Searches
- Manage my Maps

Publishing Help

- Publisher's Guide
- Portal Metadata Standard
- FGDC Metadata Standard

Search Results

[New Search](#) [Refine Search](#)



Records Found: 9

Search for:

What:	school district
Who:	Any Publisher
Where:	North: 48.6 South: 44.16 East: -107.288 West: -113.288
Category:	All Categories
Resource Type:	Any Type/Format
Time Frame:	Any Time

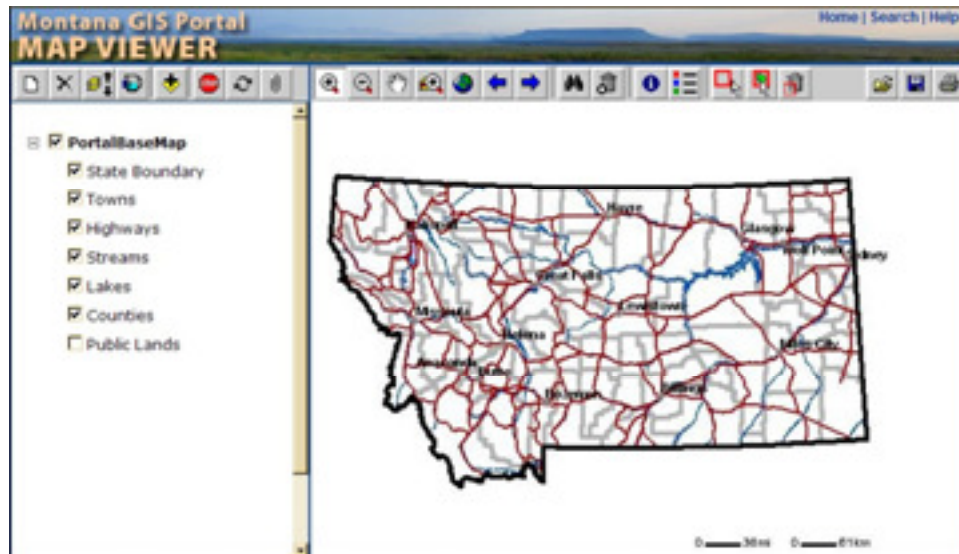
Metadata Results

The Portal can only print one "Download Data" or "Go To Website" button for each result. **The metadata for some results contain additional options for downloading the data.**

<p>Content Title: Montana Cadastral Database</p> <p>Publisher: Montana Base Map Service Center</p> <p>Coverage Area: Montana</p> <p>View Metadata Go To Website</p>	
<p>Content Title: Montana Elementary School District Boundaries, 2004</p> <p>Publisher: Montana State Library</p> <p>Coverage Area: Montana</p>	

You still get more results than you expect from the advanced search. In this case, the Montana Cadastral Database metadata explains that the parcels know what school districts they are in, so it comes up as a result.

Map Viewer



The Map Viewer is a nice little application that starts out with a very simple map. As you find map services with the Portal, you can add them to this map.

It also has the ability to add any map service that you know the address of, and you can re-order the layers and set their transparency. You may also change the map projection of the view. You can draw an area on this map or select a feature to use, and it will automatically be transferred to the Portal's Advanced Search window for use in a geographic search.

NRIS is about to start work on a new all-purpose interactive mapping application. When it is ready, it will replace the map viewer and have all of the functions of our current Topofinder and Digital Atlas applications.

Sign Up!

Montana GIS Clearinghouse

Portal User

Login

Username:

Password:

Create a new account! Need Password? 1

Publishing Help

Metadata Portal

Home

Montana GIS

Portal User

My Functions

Manage my Profile 3

Publishing Help

Manage my Profile

User Name: **MSL_NRIS**

Input Date: 2008-09-03

Date Last Updated: 2008-09-03

First Name:

Last Name:

Short Organization Name: (*)

Full Organization Name:

Organization Profile: (brief description of organization; up to 255 chars)

NRIS provides public access to GIS data about Montana. It secures agencies with the preparation and publication of GIS data, hosts data that agencies are unable to host themselves, and operates a clearinghouse to assist the public in locating data.

Contact Information:

Address Type:

Address:

City:

State/Province:

Postal Code:

Country:

Phone:

E-Mail:

Web Site: [Validate URL]

Portal User

Login 2

Username:

Password:

Retype Password:

Login if you already have a username!

Click the Create a new account! Link, then enter a username and password. Then click the Manage My Profile link.

The short Organization Name is required for publishers because this is the name the portal shows administrator when s/he manages metadata. Try to make it something unique, up to 15 characters. There is no need for most users to fill out any information about themselves for the Portal.

Metadata

1. What is it?
2. How do you make it?
3. What should be in it?
4. What HAS to be in it for the Portal?
5. How does the Portal use it to classify and find your data?

What is Metadata?

"Data about Data"

<http://www.fgdc.gov/metadata>



Metadata is "data about data". For GIS data, there are two standards that you may follow that tell you what should be in your metadata. One is called the Content Standard for Digital Geospatial Metadata (CSDGM) from the Federal Geographic Data Committee (FGDC), and the other is from the International Standards Organization (ISO). I am only familiar enough with the ISO standard to know that it seems to be much harder to work with than the FGDC standard. I think the Portal can work with the ISO standard, but if you choose to use it, I won't be able to help you with it.

The FGDC workbook is on your CD and is available from the Portal web site.

What is Metadata?

The collage consists of three main components:

- Left Image:** A screenshot of the Montana GIS Portal homepage. A red circle highlights the 'Help' link in the left sidebar. A red arrow points from this circle to the 'Help' link in the bottom right image.
- Top Right Image:** A screenshot of the 'Metadata Standard for the Montana GIS Portal' document. It includes an introduction stating that this is a standard for metadata documents submitted for publication on the Montana GIS Portal at <http://portal.mt.gov>. It also defines metadata as 'data about data' and mentions that the XML file must conform to a standard that allows the portal software to load, set, and provide information.
- Bottom Right Image:** A hierarchical diagram titled 'Graphical Representation of: The Federal Geographic Data Committee's Content Standards for Digital Geospatial Metadata'. The diagram shows a central box labeled 'Metadata' at the top, which branches down into seven categories: 'Identification', 'Positioning', 'Reference', 'Content', 'Quality', 'Access', and 'Distribution'.

The GIS portal has links to more information about metadata and a link to this presentation.

What is Metadata?

Metadata for Montana Names from the Geographic Names Information System

- [Identification Information](#)
- [Data Quality Information](#)
- [Spatial Data Organization Information](#)
- [Spatial Reference Information](#)
- [Entry and Attribute Information](#)
- [Distribution Information](#)
- [Metadata Reference Information](#)

Identification Information:

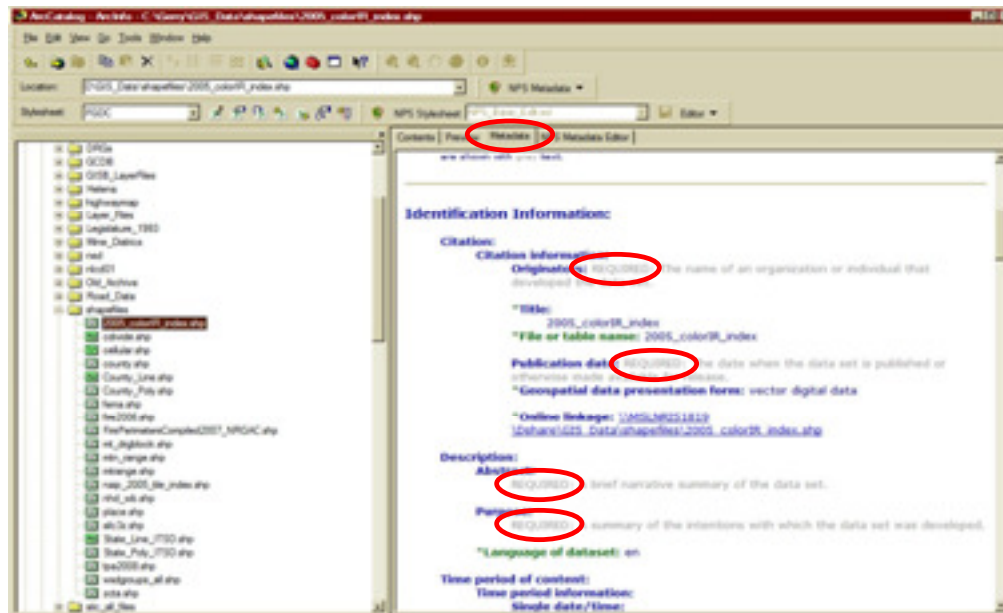
Citation:

Originator: U.S. Geological Survey
Publication date: 03/24/2008
Title: Montana Names from the Geographic Names Information System
Publication place: Helena, MT
Publisher: Montana State Library
Online linkage: <http://nris.mt.gov/mad/nris/shape/gnis.zip>

Abstract:

The Geographic Names Information System holds the Federally recognized name of and a location for physical and cultural geographic features of all types in the United States, current and historical, but not including roads and highways. The database assigns a unique, permanent feature identifier as a standard Federal key for accessing, integrating, or reconciling feature data from multiple data sets. The GNIS collects data from a broad program of partnerships with Federal, State, and local government agencies and other authorized contributors. The GNIS provides data to all levels of government and to the public, as well as to numerous applications through a web query site, web map and feature services, file download services, and customized files upon request.

How Do You Make Metadata?

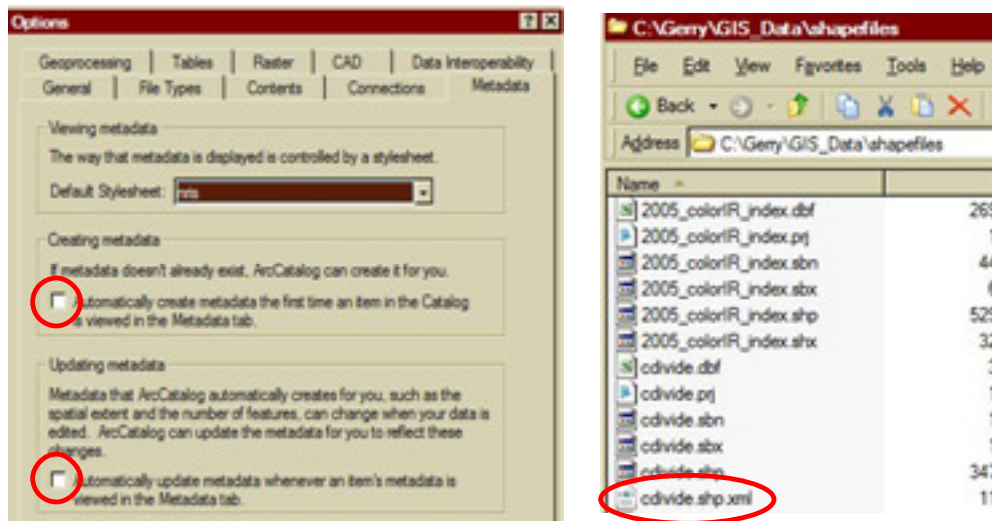


The only metadata tool I am familiar with and can discuss is ESRI's ArcCatalog. The FGDC metadata web page has links to other tools that can help you make FGDC metadata.

You really need a tool that can read metadata in plain language and transform it into XML format. Metadata uploaded to the Portal must be in XML format.

ArcCatalog by default automatically makes a metadata file for any data you click on when the metadata tab is selected. This automatically creates scores of notations about what ArcCatalog thinks is required in your metadata that you have to track down and fix. It is much easier to create metadata if you set ArcCatalog to not do this (see next slide).

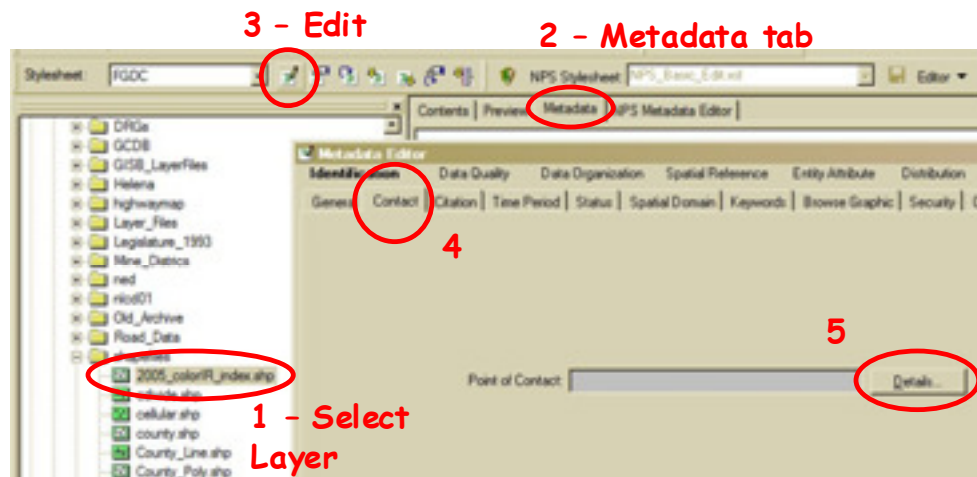
Take Control of Your Metadata



In ArcCatalog, select Tools from the main menu and then select Options. Turn off BOTH of the checkboxes, so that ArcCatalog never messes with your metadata unless you want it to.

ArcCatalog stores metadata for shapefiles on disk with the shapefile as a “.shp.xml” file. Metadata for geodatabase layers is stored in tables where it is not easily accessible without ArcCatalog.

Make a Metadata Template



Metadata contains a lot of information about you and your organization. It is easier to make metadata for a layer if you can start by loading an empty metadata record that has your contact information in it.

The next couple of slides guide you through the process of finding the parts of a metadata record that you probably will want to re-use and filling them out.

Click the Edit button while looking at a layer that has no metadata, to start an empty record.

The first place to enter your basic info is the Contact tab. Click it, then click the Details button.

Make a Metadata Template

The image displays two overlapping screenshots of a 'Contact Information' form. The left screenshot shows the 'General' tab, where the 'Address' field is highlighted with a red circle. The right screenshot shows the 'Address' tab, where the 'Address' field is also highlighted with a red circle. Both screenshots show the same contact information: Person: Gerry Dauniller, Organization: Montana State Library, Position: NRTS Manager. The left screenshot shows the 'Address' field with the value 'PO Box 201000'. The right screenshot shows the 'Address' field with the value '406-444-5355'. The right screenshot also shows additional fields: 'Contact Voice Telephone' (406-444-5355), 'Contact Fax Number', 'Contact Email Address' (gdauniller@mt.gov), and 'Contact TDD/TTY Telephone'.

There are two tabs to fill out on the Contact Information window. Notice that you can have more than one Address, telephone number, and Email address. The metadata standard was created before anyone had cell phones, so there isn't a separate field for it.

Make a Metadata Template

The screenshot displays the 'Metadata Editor' application with the 'Distribution' tab selected. The interface includes several tabs: Identification, Data Quality, Data Organization, Spatial Reference, Entity Attribute, Distribution, and Metadata Reference. The 'Distribution' tab is highlighted with a red circle and labeled '1'. Below the tabs, there are sections for 'Downloadable Data', 'Resource Description', and 'Distribution Liability'. The 'Resource Description' section is highlighted with a red circle and labeled '2'. The 'Distribution Liability' section contains a text area with a disclaimer: 'We sure don't take responsibility for this data. Please don't sue us if you drive off a cliff from following these instructions.' Below this, there is a 'Distribute' button and a 'Details...' button, both highlighted with red circles and labeled '3' and '4' respectively. To the right, a 'Contact Information' dialog box is open, showing fields for 'Person' (Name, Supervision, Position), 'Address' (Address Type, Address, City, State or Province, Postal Code, Country), and 'Phone' (Phone Number, Extension, Fax Number, Mobile Number, Email Address).

The Distribution section is where you put your standard liability statement, and it has a contact section that you fill out the same way you did with the Point of Contact. In a large organization, these could be different people, and each person might want their own metadata template.

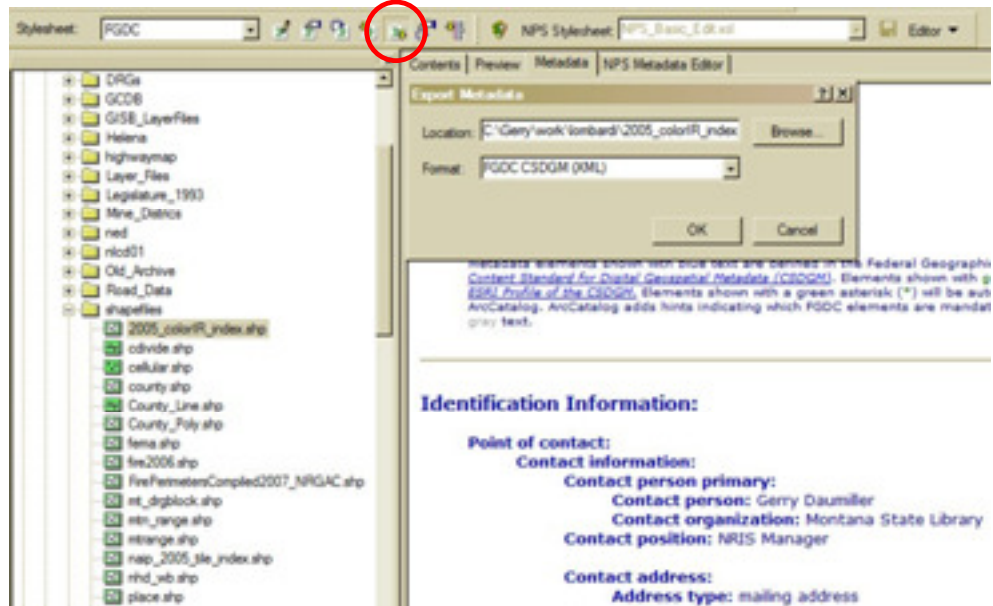
THE RESOURCE DESCRIPTION IS WHERE YOU TELL THE PORTAL WHAT TYPE OF RESOURCE THIS IS, such as downloadable data, live data, or a mapping application. Use one of the choices given later in this presentation. You can put the value you will use for most of your metadata here, but if you have different types of resources available, this is an important field to think about for each document.

Make a Metadata Template

The screenshot shows the 'Metadata Editor' application window. The 'Metadata Reference' tab is selected and highlighted with a red circle and the number 1. Within this tab, the 'Contact' field is highlighted with a red circle and the number 2, and a 'Details...' button is visible next to it. To the right, a 'Contact Information' sub-window is open, showing fields for 'Person' (Garry Bauder), 'Organization' (Montana State Library), and 'Position' (NDS Manager), with the number 3 next to the 'Organization' field. At the bottom of the main window, the 'Save' button is highlighted with a red circle and the number 4. The interface includes various other fields for metadata creation, such as 'Metadata Date', 'Metadata Standard', and 'Classification System'.

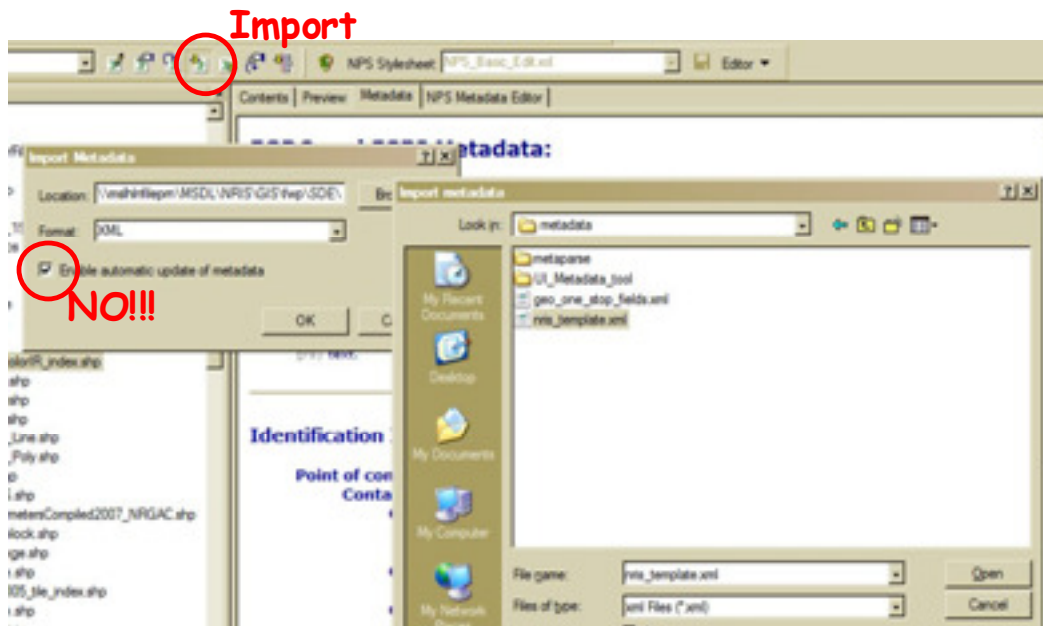
The Metadata Reference section tells who wrote the metadata and when. The Contact section has the same format as the Point of Contact and the Distributor.

Export your Metadata Template



After you save your work on your template, export it to FGDC XML format.

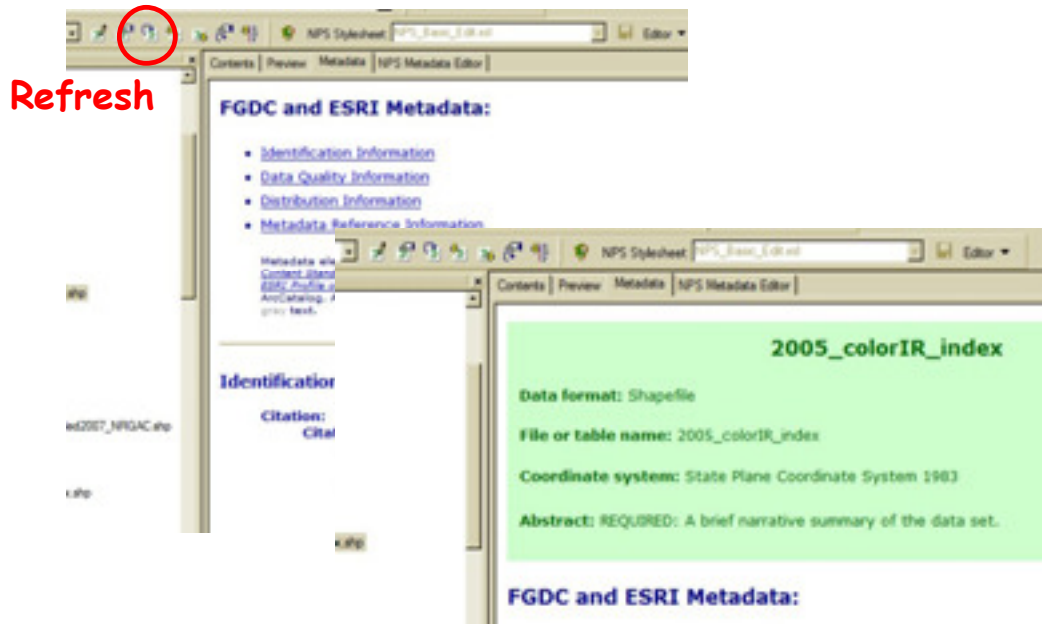
Use a Metadata Template



Now you can go to a layer you want to make metadata for and import the template file you saved.

I always turn off the "Enable automatic update of metadata". This messes up the title of your metadata document if you are importing a template that already has a title.

Use a Metadata Template



AFTER you have imported your template, click on the Create/Update metadata button, and it will fill out lots of stuff about your layer automatically – geographic extent, number of features, coordinate system, and a list of the attribute fields.

When you do this ArcCatalog will still make a bunch of entries in the metadata saying what you are required to fill out, but there are a lot fewer of them to track down than if you hadn't used the template.

What Should Be In a Metadata Document?

Citation:

Originator: Montana State Library
Publication date: 06/03/2004
Title: Montana Elementary School District Boundaries, 2004
Publication place: Helena, Montana
Publisher: Montana State Library
Online linkage: <http://nrs.mt.gov/mad/nrs/e00/selchd2004.zip>
Online linkage: <http://nrs.mt.gov/mad/nrs/shape/selchd2004.shp>

Abstract:

This data is a revised version of the Elementary School Districts from the U.S. Census Bureau 2000 Redistricting TIGER files. The boundaries of districts in Missoula County have been replaced by data provided by the Missoula County Surveyor's Office.

The data includes the number of students enrolled in each district at the beginning of the 2000 school year. In the e00 (Arc/INFO coverage) version of the data, each district has its name labeled by annotation level 1 and its enrollment labeled by annotation level 2.

Since this data was created, the Kessler district was absorbed by the Helena district. The Bridge, Billup, Belle Creek, Lloyd, Mainburg, and Musselshell districts are not currently operating. The Squirrel Creek district has changed its name to Spring Creek.

Purpose: Display or analysis of school districts

Time period of content:

Calendar date: 2000

Currentness reference: publication date

Status:

Progress: Complete

Maintenance and update frequency:

The Census Bureau releases updates to the TIGER files annually. The State Library will probably not update the school district boundaries before 2011 unless a need for it is identified.

Access constraints: None

Use constraints: Not for use at scales greater than 1/100,000.

Point of contact:

Montana State Library
P.O. Box 201800
Helena, Montana 59620-1800

Telephone: (406) 444-5358

Fax: (406) 444-0581

E-Mail: nrs@mt.gov

Originator: Who made this data set. In this example, a good case could be made for saying US Census Bureau instead of State Library, since most of it came from there.

Title: WHERE, WHAT, and WHEN

Publication Date: Required by the Portal.

Publisher: Who is responsible for distributing it. For this data, it is really the State Library rather than the Census Bureau, because of the work we did on it that you can't get from them. If you can get almost exactly the same data from the Census Bureau, I still suggest putting your organization here, since you are who people will be getting it from.

Online linkage: The Portal has rules, described later, for how this should be filled out for different data types.

Purpose: This can be a general purpose statement of what the data is good for, or your specific purpose for creating the data, such as "This was created so that we could make a school district map with student enrollment for the Office of Public Instruction."

The Point of Contact must be filled out for the Portal to accept the metadata.

What Should Be In a Metadata Document?

Keywords:
Theme:
Theme keywords: Hydrography, Stream, River, Lake, Pond, Canal, Ditch, Reservoir, Spring, Seep, Swamp, Marsh, Artificial Path, Reach
Theme keyword thesaurus: None
Theme:
Theme keywords: inlandWaters
Theme keyword thesaurus: ISO 19115 Topic Category
Place:
Place keywords: Montana

Editing 'National Hydrography Dataset Waterbody Features'

Identification Data Quality Data Organization Spatial Reference Entity Attribute Distribution Metadata Reference

General Contact Citation Time Period Status Spatial Domain Keywords Browse Graphic Security Cross Reference

Theme

Keyword: inlandWaters Thesaurus: ISO 19115 Topic Category

Place

Keyword: Montana Thesaurus:

Theme Keywords: For the Portal, there MUST be a Theme section with a Theme keyword thesaurus whose value is "ISO 19115 Topic Category". You must choose at least one keyword from the following list:

The 19 Theme Keywords

ISO 19115 Topic Category

001	farming	
002	biota	
003	boundaries	
004	climatology	Meteorology Atmosphere
005	economy	
006	elevation	
007	environment	
008	geoscientific	Information
009	health	
010	imagery	Base Maps Earth Cover
		011 intelligence
		012 inland
		013 location
		014 oceans
		015 planning
		016 society
		017 structure
		018 transportation
		019 utilities

Theme Keywords. You must choose at least one keyword from this list.

What Should Be In a Metadata Document?

Source information:
Originator: U.S. Census Bureau
Publication date: 2000
Title: 2000 Tiger/Line Files
Edition: 2000 Redistricting
Publication place: Washington, DC
Publisher: U.S. Census Bureau
Source scale denominator: 100000
Source contribution:
The school district boundary coordinates, except for those within Missoula County, and school district names were selected and copied from the TIGER files.
Calendar date: 2000

Source information:
Originator: Missoula County Surveyor's Office
Publication date: Unpublished Material
Title: Missoula County Elementary School District Boundaries
Source scale denominator: 24000
Source contribution:
The school district boundary coordinates within Missoula County were copied from this source.
Calendar date: 2004

Source information:
Originator: Montana Office of Public Instruction
Publication date: 2000
Title: Fall 2000 Enrollment
Publication place: Helena, MT
Publisher: Montana Office of Public Instruction
Source contribution: The 2000 Enrollment data was copied from this source.
Calendar date: 08/2000

Process step:
The TIGER/Line files were imported into a series of ArcView shapefiles using TGR2SHP version 4.1 by GIS Tools of Knoxville, TN. This step produced shapefiles for each county of elementary school districts and unified school districts.
Process date: 2001

Process step:
The individual county unified and elementary school district shape files were projected to Montana State Plane Coordinates and combined into a single data set.
Process date: 2001

Process step:
The fall enrollment data was joined to the attribute table.
Process date: 2001

Process step:
Boundary lines from the Missoula County data were incorporated into the data set
Process date: 05/03/2004

Sources and Processing.

What material was assembled to create this data set? How did you do it?

What Should Be In a Metadata Document?

Entity and Attribute Information:

Attribute label: Shape

Attribute definition: Feature geometry.

Attribute label: GNIS_ID

Attribute definition:

This is the unique Feature_ID assigned to the feature by the GNIS. This copy of the GNIS has eight features with GNIS-IDs between 0 and 7 that were added by the State Library and do not have official GNIS feature IDs yet.

Attribute label: Name

Attribute definition:

Official Feature Name. If a feature has a 1 in the ten millions column of the Change_Log field, the name was edited by the State Library.

Attribute label: Class

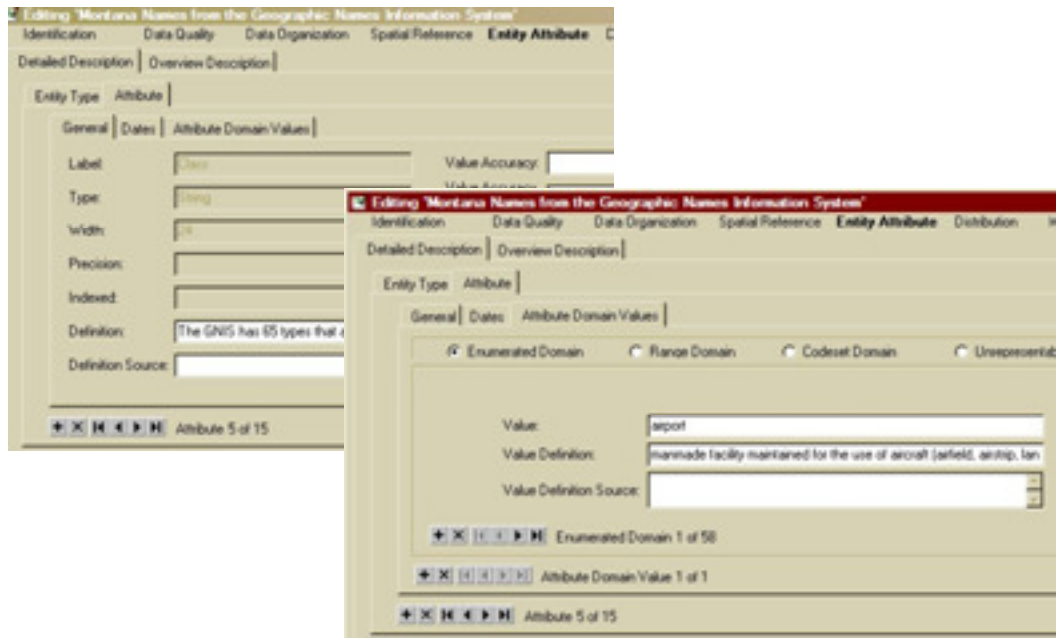
Attribute definition:

The GNIS has 65 types that a feature may be classified as. 58 of these classes occur in this file for Montana. If a feature has a 1 in the hundreds column of the Change_Log field, the feature has been reclassified at the State Library.

Attribute Value	Definition of Attribute Value
airport	manmade facility maintained for the use of aircraft (airfield, airstrip, landing field, landing strip)
arch	natural arch-like opening in a rock mass (bridge, natural bridge, sea arch)
area	any one of several areally extensive natural features not included in other categories (badlands, barren, delta, fan, garden)

Attribute list and explanations. ArcCatalog makes the list for you, but you should include an explanation of what they all mean.

Working With Attributes in ArcCatalog



If an attribute has a limited list of values that are allowed in it, you should use the Enumerated Domain to make a list of them and what they mean.

It can be really helpful to type some of this stuff in a text editor ahead of time and copy and paste it into the little ArcCatalog fields.

What Should Be In a Metadata Document?

Distributor:
Montana State Library
PO Box 201800
Helena, MT 59620-1800

Telephone: 406-444-5358
E-Mail: nris@mt.gov

Resource description: Downloadable Data

Distribution liability:
Although these data have processed successfully on a computer system at the City of Helena, no warranty expressed or implied is made regarding the purposes, nor shall the act of distribution constitute any such warranty. This disclaimer applies both to individual use of the data and aggregate use with other data. It is strongly recommended that careful attention be paid to the contents of the metadata file associated with these data. The City of Helena and the Montana State Library shall not be held liable for improper or incorrect use of the data described and/or contained herein.

Standard order process:
Digital form:
Format name: MrSID
Online option: http://nris.mt.gov/nsdi/orthophotos/2006_helena.html

[Back to Top](#)

Metadata Reference Information:

Metadata date: 06/11/2007
Metadata contact:
City of Helena
316 N. Park Ave.
Helena, Montana 59624

Distributor: Who can I get the data from? This is required by the Portal

Resource Description: Must be one of the data types shown on the next slide.

Standard Order Process: Not required, but nice to have.

Metadata Contact Address: Required for the Portal.

Resource Description

1. **Live Data and Maps:** Web services that may be added to map applications.
2. **Downloadable Data:** Data files which may be downloaded and then added to a map.
3. **Offline Data:** Data files that you have to order.
4. **Static Map Images:** Map images that may be downloaded
5. Document
6. Applications
7. Geographic Services
8. Clearinghouse
9. Map Files
10. Geographic Activities

The Resource Description in the Distribution Information must be filled out with one of the values shown.

Make a Link to Your Data

1

2

3

The screenshot shows a web form titled "Editing Montana Public Land Ownership". At the top, there are tabs for "Identification", "Data Quality", "Data Organization", "Spatial Reference", "Entity Attribute", and "Distribution". Below these are sub-tabs for "General", "Contact", "Citation", "Time Period", "Status", "Spatial Domain", "Keywords", "Browse Graphic", and "Security". The "Citation" sub-tab is selected. In the "Citation" section, the "Citation Title" is "Montana Public Land Ownership" and there is a "Details..." button. Below this is the "Citation Information" section, which has sub-tabs for "General" and "Series/Publication Information". The "General" sub-tab is selected. It contains fields for "Title" (Montana Public Land Ownership), "Originator" (Montana Natural Heritage Program (MTHNP)), "Publication Date" (2007/01/17), "Publication Time", "Edition", "Geospatial Data Presentation Format" (vector digital data), and "Online Linkage" (http://nhs.mt.gov/nhd/nhs/nhd/stewardship.zip). The "Online Linkage" field is circled in red. There are also buttons for adding, deleting, and saving linkages.

Online Linkage Rules

Live Data and Maps

- **ArcIMS:** `http://<server>/image/<service>`
 - `http://maps.nris.mt.gov/image/raster_svc`
- **OGC Map Service:** (4 types)
 - `http://<server>/<servlet-path>/com.esri.wms.Esrimap`
 - `http://<server>/<OGC Type>/<path>`
 - OGC Type is **wfs**, **wms**, or **wcs**
 - `http://<server>/<path>/service=<OGC Type>`
 - `http://<server>/<path>/<text>request=getmap<text>`
 - `http://maps.mt.com/OGCservlet/OGC?ServiceName=MTmaps&request=getmap&Layers=State`

If the Resource Description is Live Data and Maps and the Online Linkage follows these rules, the Portal will make a button for adding the service to the Map Viewer.

Online Linkage Rules

Downloadable Data

`http://<server>/<path>/<filename>.<extension>`

or

`ftp://<server>/<path>/<filename>.<extension>`

Extensions: zip gz tar tgz dbf shp rar xls txt dwg dxf
dgn e00

If the Resource Description is Downloadable Data and the Online Linkage follows these rules, the Portal will make a button for downloading the data.

Online Linkage Rules

Static Map Images

`http://<server>/<path>/<filename>.<extension>`

or

`ftp://<server>/<path>/<filename>.<extension>`

Extensions: gif jpg jpeg bmp pdf pmt tif tiff cal pct pict
eps mxd av mpg mpeg wmv img rm

For all other Online Linkage/Resource Description combinations, the Portal will make a "Go to website" button for the link.

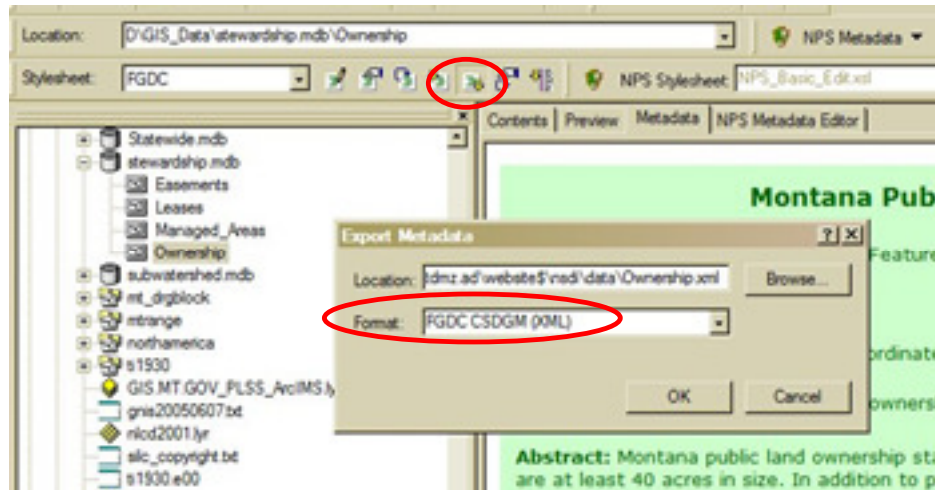
If the Resource Description is Live Data and Maps and the Online Linkage follows these rules, the Portal will make a button for downloading the map.

Publish Your Metadata!

1. Get it out of ArcCatalog
2. Set up unique IDs
3. Sign up as a publisher
(Then wait for us to register you.)
4. Publish the metadata
 1. Choose a method
 2. Upload or define a harvest
 3. Tell us to review it

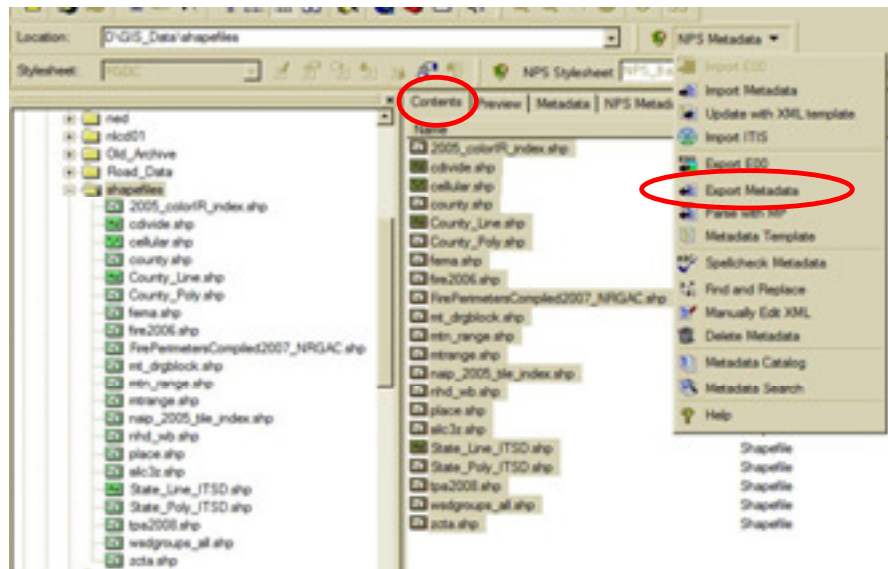
Export Your Metadata

One record at a time with default ArcCatalog export tool.



Export Your Metadata

Multiple records with the National Park Service Metadata tool.

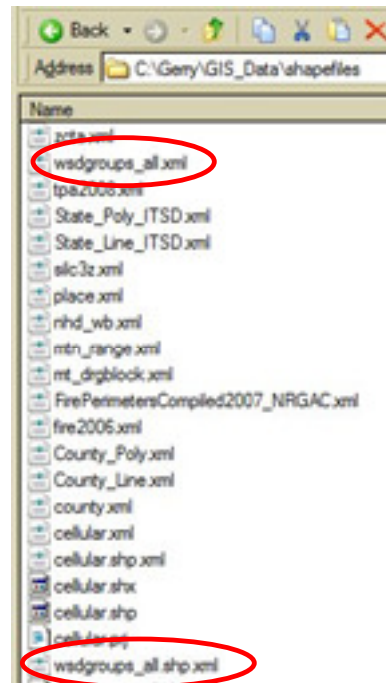
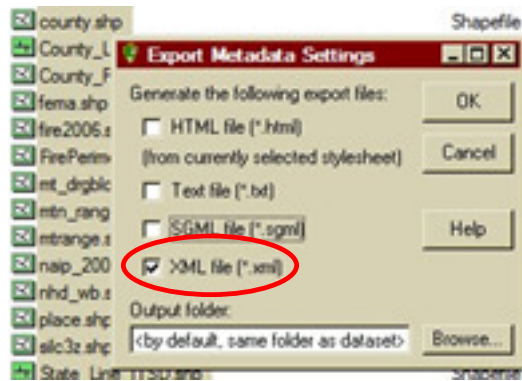


The NPS metadata tool is on your CD or available from <http://science.nature.nps.gov/hrdata/tools/>. It also has an alternate metadata editor.

Use the ArcCatalog Contents tab to view all the layers in a selected workspace, then select all the layers whose metadata you want to export.

Export Your Metadata

National Park Service Metadata tool
Each exported file will have the
same name as the data set.



Global Unique IDs for your Metadata

If you upload metadata to the Portal, revise it, and upload it again, the Portal software currently sees this as two different records, unless your metadata file has a Global Unique ID (GUID) in it. If you want to avoid this, you must generate your own unique IDs and insert them in the proper place before the `</metadata>` line at the end of each xml file.

```
<Esri>  
<PublishedDocID>  
{13B2A163-4EE2-4204-B553-6309DD3434C2}  
</PublishedDocID>  
</Esri>  
</Metadata>  
(end of file)
```

Global Unique IDs for your Metadata



There are probably lots of ways to generate GUIDs. If you have a large number of metadata files, you may want to work up some sort of merge or macro to insert the IDs in them.

This will NOT be required in the next release of the Portal.

Sign up as a Publisher

Send your Portal username to nris@mt.gov. The Portal Administrator has to give you permission to be a publisher.

Metadata Portal	Manage Users					
<input type="checkbox"/> Home						
<input type="checkbox"/> Launch Map Viewer						
<input type="checkbox"/> Advanced Search						
<input type="checkbox"/> Log Out (admin)						
Admin Functions						
<input type="checkbox"/> Manage Metadata						
<input checked="" type="checkbox"/> Manage Users						
<input type="checkbox"/> Manage Groups						
<input type="checkbox"/> Batch Upload						
<input type="checkbox"/> Manage Repositories						
My Functions						
<input type="checkbox"/> Manage my Profile						
<input type="checkbox"/> Change Password						

User Name	Role	Organization	Enabled	Action	
egeraghty	Publisher + Steward	DOA ITSD OISS	Yes	Disable	Delete
fashoway	Publisher + Steward	ITSD	Yes	Disable	Delete
gdaumiller	Publisher	MSL	Yes	Disable	Delete
missoula_gis	Registered User	Missoula County	Yes	Disable	Delete Make Publisher
mjones	Registered User		Yes	Disable	Delete Make Publisher
olwest	Registered User	Missoula County	Yes	Disable	Delete Make Publisher
Publisher1	Registered User		Yes	Disable	Delete Make Publisher
tom	Publisher	MSL	Yes	Disable	Delete

Create Metadata

In the next release of the Portal, you will be able to write metadata using an input form on the Portal.

Metadata Portal

- Home
- Launch Map Viewer
- Advanced Search
- Log Out (pdaumiller)

My Functions

- Manage my Profile
- Change Password
- Create Metadata**
- Upload Metadata
- Manage my Repositories
- Manage my Metadata
- Manage my Searches
- Manage my Maps

Portal Tools

- Download Portal Toolbar
- Download ArcGIS Explorer Search Task

Create Metadata

To publish a new record, first select the type of content that you wish to publish from the drop-down menu. Then, a custom form is displayed for you to complete for the content type that you selected.

If you are not certain about how to classify your content, please refer to the content descriptions presented below.

Metadata Standard: ☒ FGDC
☐ ISO 19115
☐ ISO 19139

Type of Content:

Content Type Description

Application: An online application that provides a complete user interface for publishing and managing hosted data. The application for content needed to perform a

Create Metadata

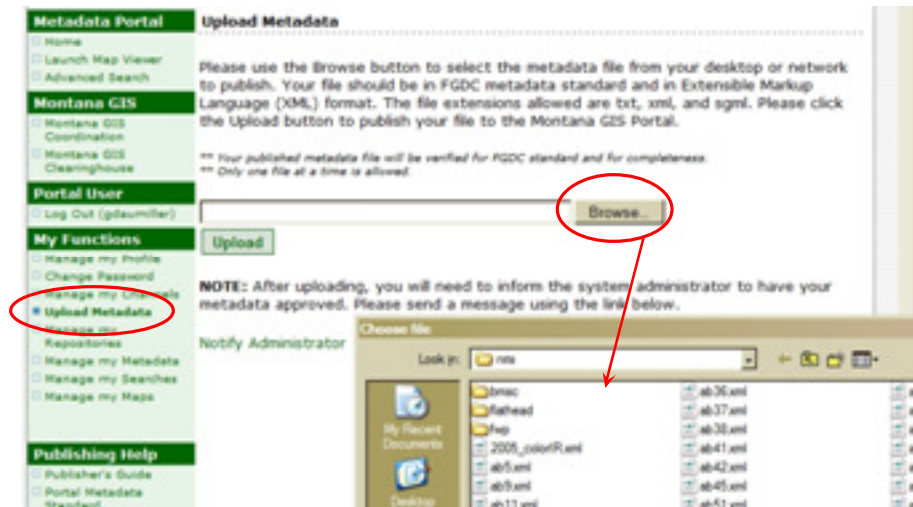
The on-line metadata creation form does not have all the fields you need to completely document your data, such as source information, processing steps, or attribute information.

The screenshot shows a web form for creating metadata. It is divided into three main sections: Contact Information, Citation, and Description. The Contact Information section includes fields for Country (USA), Phone Number (202-444-5355), Fax Number, and E-Mail (jlaumiller@ind.gov). The Citation section includes fields for Originator, Content Developer Type, Title (*), Edition, Presentation Form, Publisher (*), Publication Place, Publication Date (YYYY-MM-DD) (*), and Online Linkage (URL). The Description section includes a field for Abstract (*). Each field has a small 'x' icon in the bottom right corner, likely for clearing the field.

Country:	USA
Phone Number: (*)	202-444-5355
Fax Number:	
E-Mail: (*)	jlaumiller@ind.gov
Citation:	
Originator:	
Content Developer Type:	
Title: (*)	
Edition:	
Presentation Form:	
Publisher: (*)	
Publication Place:	
Publication Date (YYYY-MM-DD): (*)	
Online Linkage (URL):	
Description	
Abstract: (*)	

Upload Metadata

This is the easiest way to publish metadata if you do not have a large collection.



Upload Metadata

The Portal will tell you if there is a problem with your metadata.

The image displays two screenshots of the Metadata Portal interface, illustrating error handling during document upload. Both screenshots feature a left sidebar with navigation links: Home, Launch Map Viewer, Advanced Search, Log Out (gdaumiller), and My Functions (Manage my Profile, Change Password, Create Metadata, Upload Metadata). The main content area is titled 'Publish Results' and shows an orange error box with a red 'x' icon.

Top Screenshot: The error message states 'Unable to publish document.' followed by the exception: 'org.opengis.catalog-publishservice.PublishException: Unable to publish document, Document has no title.'

Bottom Screenshot: The error message states 'Unable to publish document.' followed by a detailed validation error: 'Your metadata document did not pass Content Validation: cellular'. It includes the rule 'Rule: Check the value and presence for field 4 child nodes for extent', the status 'Status: error', and the reason 'Reason: The required field is not populated, present or contains incorrect information'. The specific metadata element is identified as 'count(/metadata/sdinfo/upload/bounding/child:*)' with a value of 4.

Unfortunately, it only tells you about the first error it finds. If you fix one thing and upload it again, it may find more errors.

Upload Metadata

Successful Upload

The screenshot displays the Metadata Portal interface. At the top, a green navigation bar contains links: Home, Launch Map Viewer, Advanced Search, Log Out (gdaumiller), and My Functions. Below this, a 'Publish Results' section shows a message: 'Document was published successfully.' The main content area is titled 'Manage My Metadata' and includes a section for 'Manage My Published Metadata Access Policy' with input fields for Document Title (cellular), Document UUID, Owner (gdaumiller), Status (Any), and Date range between. A 'Search' button is present. Below the search fields, a table lists metadata records. The first record is highlighted, and four red arrows point to its action icons: View, Delete, Download XML, and Check Online Status.

Action	UUID	Title	Owner	Update Date	Status
View	{33AF07DF-F370-4CA0-B2C8-1197B70ED00}	cellular	gdaumiller	2008-04-06	Posted

After you upload metadata, go to the Manage my Metadata screen to see its status. There can STILL be problems with the metadata.

Metadata Trouble

Administrator approves metadata.

For selected records: [Set as Approved](#) [OK](#)

Results 1-1 of 1 metadata record(s) Previous 1 Next

Action	UUID	Title	Owner	Update Date	Status
<input checked="" type="checkbox"/>	{33AF07DF-F37D-CAD7-119C-F870ED0D}	cellular	gdsuniller	2008-04-06	Posted

Online Linkage in metadata file was bad.

Online Status Report

UUID	Title	Online Linkage URL	Status
{33AF07DF-F37D-CAD7-119C-F870ED0D}	cellular	http://wireless.fcc.gov/geographic	Page Not Found (404)

After you upload metadata, go to the Manage my Metadata screen to see its status. There can STILL be problems with the metadata. In the first example, the value provided in the Online Linkage was a URL the Portal could not find when the "Check Online Status" button was clicked.

Metadata Harvesting

Put your metadata where the Portal will automatically find it.



The screenshot shows the Metadata Portal interface. On the left, there is a sidebar with two main sections: 'Metadata Portal' and 'My Functions'. The 'Metadata Portal' section includes links for Home, Launch Map Viewer, Advanced Search, and Log Out (jgdaumiller). The 'My Functions' section includes links for Manage my Profile, Change Password, Create Metadata, Upload Metadata, and Manage my Repositories (which is currently selected). The main content area is titled 'Manage my Repositories' and features a link 'Register New Metadata Site' circled in red. Below this link is a table listing existing repositories.

Harvest ID	Name	Date Created	Last Updated	Action
3	WAF: http://maps2.nris.mt.gov/nad/nris	2008-03-12	2008-03-12	Update Delete History

Metadata Harvesting

Put your metadata where the Portal will automatically find it.

Harvesting Repository Information

Protocol: ☐ AnIMS ☐ Z39.50 ☐ OAI-PMH ☒ WAF ☐ CSW

Repository URL:

User Name:

Password:

The GIS Portal will categorize your metadata based on the metadata theme it may be assigned to one of the 19 topic category in the ISO 19115. The ISO is inserted directly in the metadata as one of the theme keywords or you can ask that will translate theme keyword in your metadata with an ISO topic category. be assigned for any first match of theme keyword found in the lookup table is example of a theme lookup table.

Please select the method to provide the theme keyword:

☒ Already inserted in the metadata

☐ Lookup table

How often do you want this repository harvested:

☒ Once every month

☐ Twice every month

☐ Once every week

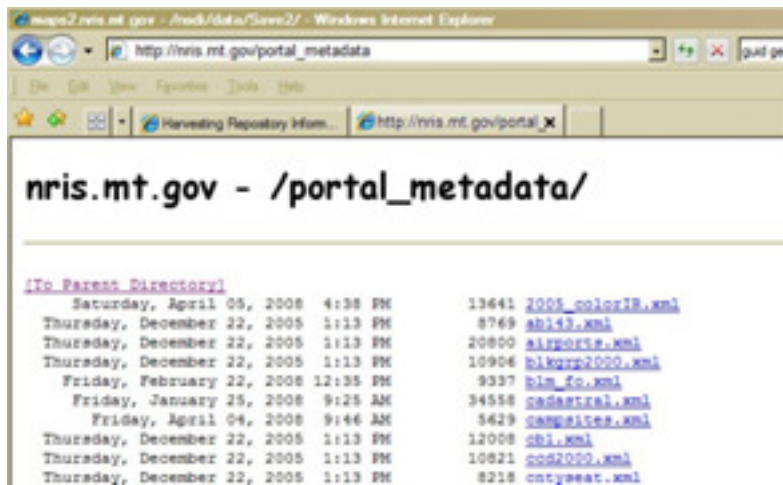
☐ Only once

☐ Stop harvesting

The only method I am familiar with at this time is the WAF, Web Accessible Folder. If you have a server that you can store metadata in and want the Portal to harvest metadata from it, give us a call and we will figure it out.

Metadata Harvesting

Your web administrator must set up a Web Accessible Folder with directory browsing permission. It may be password protected, if you need security on it.



Metadata Harvesting

The Portal looks like it takes care of harvesting automatically, but it does not. The administrators can see how your harvest is set up and manually harvest your data. You need to contact us in order to set up your harvests.

The next release of the Portal will automatically do harvests the way you tell it to, whenever you want.

Metadata Harvesting

If you do not put GUIDs in your metadata, the current harvester will add duplicate copies of any documents from your folder to your collection, if the folder contains documents that were previously harvested.

The harvester always re-harvests all of your documents each time a harvest happens. Any changes you made to them will be put in your collection. It does NOT delete documents from your collection if you delete them from your WAF. You must do this from the Manage My Metadata page.

Remember to Contact Us!!

Montana GIS Portal

Search Results [New Search](#)

Records Found: 0 **But I just uploaded it!!**

Search for:

What: City of Glasgow

Who: Any Publisher

Where: North: 50.94 South: 42.06 East: -104.0 West: -116.0

Category: All Categories

Resource Type: Any Type/Format

Time Frame: Any Time

The Portal does not tell us when you have uploaded your metadata. An administrator has to approve it before it goes on-line. When you have worked with your data, contact us at nris@mt.gov and let us know.